

REMARKS

I. Rejections to Claims in the Office Action

- (1) Claims 1-2 and 4 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nardella (5,713,896);
- (2) Claims 1-2 and 4-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sherman (5,971,980); and
- (3) Claims 5-16 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sherman or Nardella.

Each of the foregoing rejections is responded to below, where each response references the number corresponding to each rejection set forth above.

II. Response to Rejections Made in the Office Action

- (1) Claims 1-2 and 4 were rejected under 35 U.S.C. §102(b) as being anticipated by Nardella (5,713,896).

The Office Action stated claims 1-2 and 4 were anticipated by Nardella (5,713,896). Nardella discloses a system comprising active and return electrodes associated with an electrosurgical tool, an impedance monitoring device and a power control unit, which adjusts the energy applied to tissue to maintain tissue impedance within a preselected and desired range (see abstract). Upon delivery of electrosurgical energy to tissue through the active electrode, a measurable current is conveyed through the return electrode for use by the impedance monitor, where tissue impedance is determined. As more tissue comes into contact with the active electrode, the current at the return electrode decreases. The impedance monitor measures this as an increase in impedance and conveys a signal representative of the measured impedance to the control module, which in turn makes any necessary increase in the voltage conveyed to the active electrode to maintain tissue impedance within a desired range. Where the impedance monitor detects a decrease in tissue impedance below the desired minimum, the power control module

decreases the applied electrosurgical energy to maintain tissue impedance in the desired range (see col. 4, lines 35-50).

A rejection based on anticipation under 35 U.S.C. §102 requires all of the elements recited in the claims of the invention to be found within the four corners of the cited reference. Claims 1-2 and 4 require a control circuitry operably coupled to a generating means to initiate and terminate the application of ablating energy to a first ablating means, wherein the control circuitry is coupled to the impedance measurement circuit and terminates application of ablation energy to the first ablating means responsive to occurrence of an impedance plateau measured by the impedance measuring circuitry using a first impedance measuring electrode, following initiation of application of ablating energy to the first ablating means. The impedance plateau has been further defined as a maximum acceptable rate of change of impedance measurements over a defined period of time. Nardella never discloses such a control circuitry. Nardella discloses circuitry that makes changes to the voltage conveyed to an active electrode to maintain tissue impedance within a desired range. Nardella does not disclose circuitry that terminates the application of ablation energy to a first ablating means responsive to occurrence of an impedance plateau. Applicants respectfully request withdrawal of the rejection.

- (2) Claims 1-2 and 4-6 were rejected under 35 U.S.C. §102(b) as being anticipated by Sherman (5,971,980).

The Office Action stated claims 1-2 and 4-6 were anticipated by Sherman (5,971,980). Sherman discloses that impedance may be used to control the proper duty cycle for an ablation procedure. Too great a rise in the impedance may indicate that charring of the tissue has begun, in which case the control processor will lower the duty cycle of the power output from the ablation generator. In a case where the impedance increases to a predetermined threshold, such as twenty-five percent above the initial impedance, the ablation power is interrupted and the ablation procedure stopped. The impedance change is monitored in percentage units in one embodiment, and the relative impedance rise is considered (see col. 7, lines 10-23). In one embodiment, an impedance switch permits the user to select the percentage rise in impedance at which point the processor automatically discontinues the application of ablation energy (see col. 8, lines 20-28).

A rejection based on anticipation under 35 U.S.C. §102 requires all of the elements recited in the claims of the invention to be found within the four corners of the cited reference. Claims 1-2 and 4-6 require a control circuitry operably coupled to a generating means to initiate and terminate the application of ablating energy to a first ablating means, wherein the control circuitry is coupled to the impedance measurement circuit and terminates application of ablation energy to the first ablating means responsive to occurrence of an impedance plateau measured by the impedance measuring circuitry using a first impedance measuring electrode, following initiation of application of ablating energy to the first ablating means. The impedance plateau has been further defined as a maximum acceptable rate of change of impedance measurements over a defined period of time. Sherman never discloses such a control circuitry. Sherman discloses circuitry that monitors impedance and discontinues the application of ablation energy based on an impedance rise. Sherman does not disclose circuitry that terminates the application of ablation energy responsive to an occurrence of an impedance plateau. Generally, a plateau is a relatively stable or quiescent period or state. Therefore, a rising impedance (e.g., beyond a predetermined threshold) is not an impedance plateau. Thus the U.S.C. 102(b) rejection for claims 1-2 and 4-6 as being anticipated by Sherman should be withdrawn.

- (3) Claims 5-16 and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sherman or Nardella.

The Office Action stated claims 5-16 and 18-20 were unpatentable over Sherman or Nardella. Nardella discloses circuitry that makes changes to the voltage conveyed to an active electrode to maintain tissue impedance within a desired range. Sherman discloses circuitry that monitors impedance and discontinues the application of ablation energy based on an impedance rise.

Together the Nardella reference, the Sherman reference do not provide any motivation, suggestion or teachings for a control circuitry operably coupled to a generating means to initiate and terminate the application of ablating energy to a first ablating means, wherein the control circuitry is coupled to the impedance measurement circuit and terminates application of ablation energy to the first ablating means responsive to occurrence of an impedance plateau measured by the impedance measuring circuitry using a first impedance measuring electrode, following

initiation of application of ablating energy to the first ablating means as required in claim 3. Sherman, Nardella never disclose circuitry that terminates the application of ablation energy responsive to an occurrence of an impedance plateau. Claims 5-16 and 18-20 are dependent on independent claims 1 and 15 and are thus believed to be patentable for at least the same reasons.

Support for this amendment is clearly found in the application as originally filed. No new matter is presented.

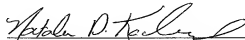
Examination and reconsideration of the application as amended is requested. After adding the claims as set forth above, the pending claims are pending in the application and are now believed to be in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

In addition, Applicant brings to the Examiner's attention that the Information Disclosure Statements mailed on February 13 and November 3, 2006 as well as one mailed January 16, 2007 have not been considered by the Examiner. Applicant requests that the references cited therein be made of record. A supplemental information disclosure statement has been filed with this response.

If any additional fee is required in connection with these papers, please charge such fee to Deposit account No. 06-1910.

If the Examiner comes to believe that a telephone conversation may be useful in addressing any remaining open issues in this case, the Examiner is urged to contact the undersigned agent at 612-492-7314.

Dated: October 30, 2007



Natalie D. Kadievitch 34,196
FREDRIKSON & BYRON, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, MN 55402-1425
Telephone: (612) 492-7000
Facsimile: (612) 492-7077